

Deactivation & Decommissioning Focus Area

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**D&D Focus Area FY 1999 Mid-Year Review
May 25-27, 1999**

Mission

Develop, demonstrate and facilitate implementation and deployment of systems to solve customer-identified needs for deactivation, decontamination and decommissioning of DOE's radiologically contaminated surplus facilities

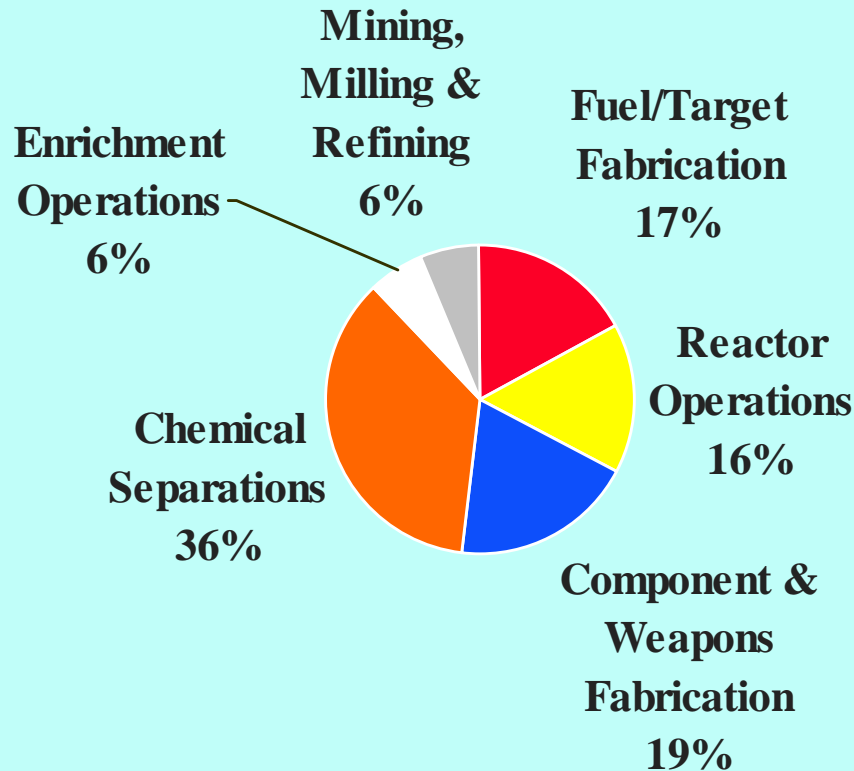
Goals

- **Demonstrate technologies, systems, and methodologies to provide capabilities to D&D 90% of surplus facilities and materials by end of FY2002**
- **Improve baselines with commercial or newly developed technologies (Mortgage Reduction)**
- **Reduce costs/mortgages through FY 2006 by 25%**

Problem

D&D of DOE Facilities

Situation Analysis



DOE Surplus Facilities,
by Process Types
Total = 3314 *

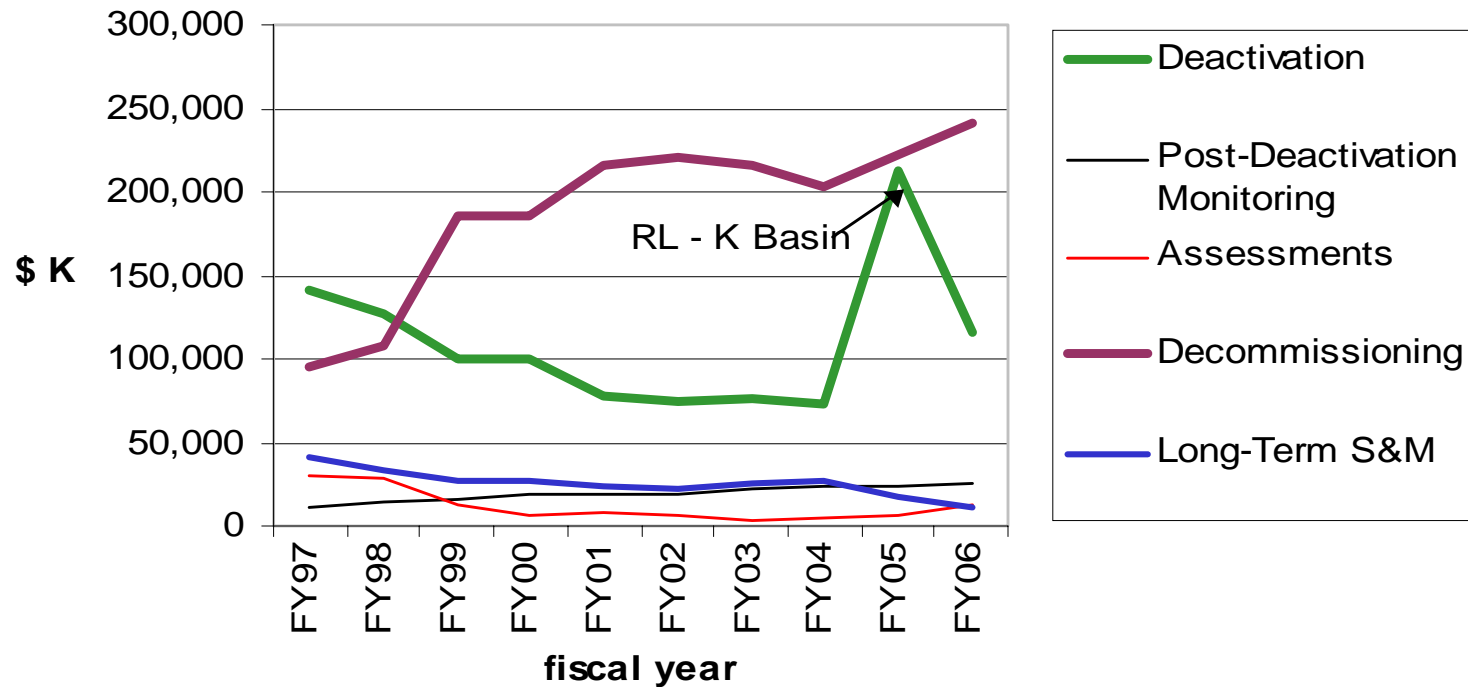
Source: Linking Legacies, DOE-EM-0319

* Excludes non-weapons operations and RD&T

D&D of DOE Facilities

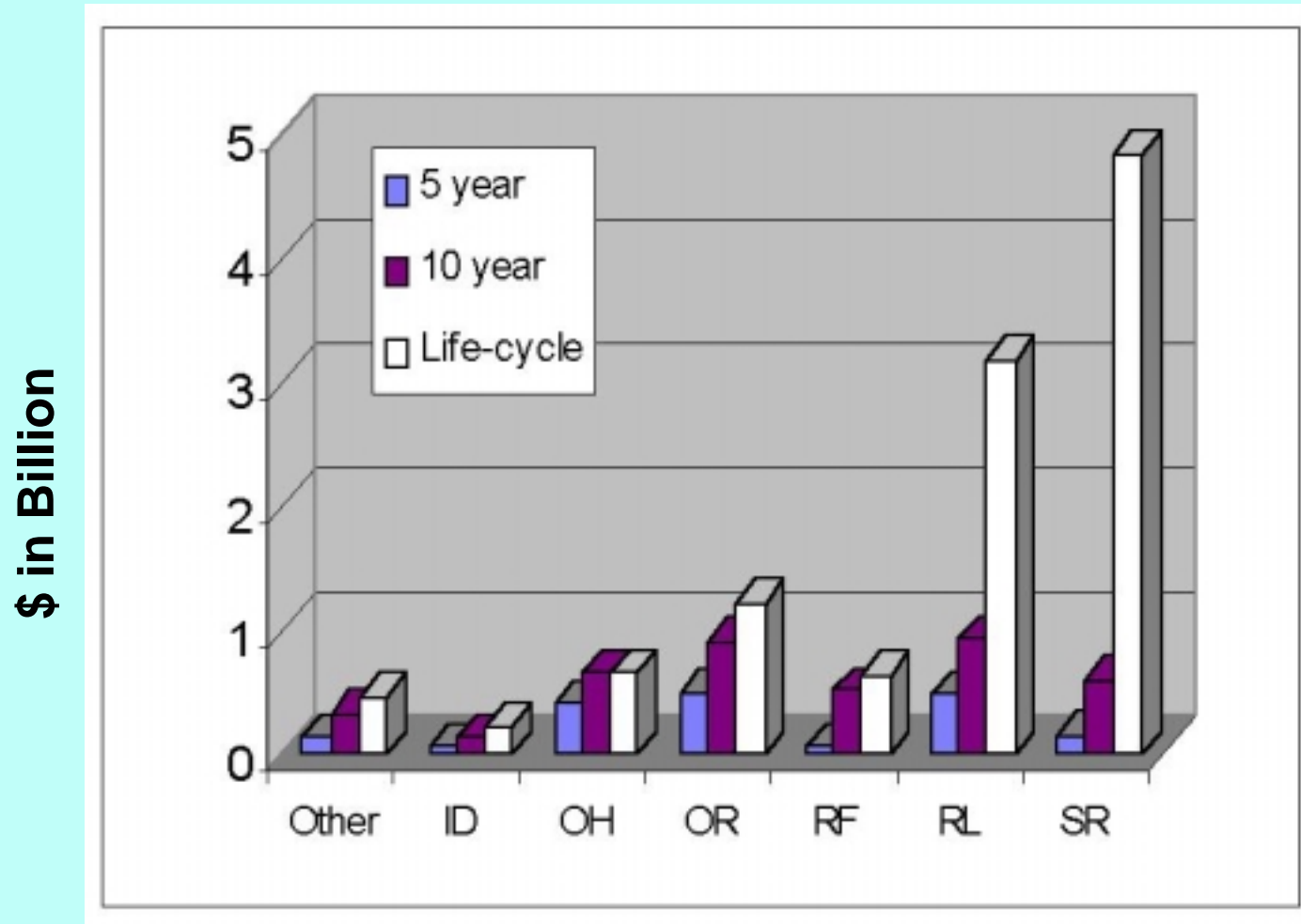
Trend Analysis

Baseline Funding Profile (FY97 - FY06)



Estimates from DOE Site Project Baseline Summaries

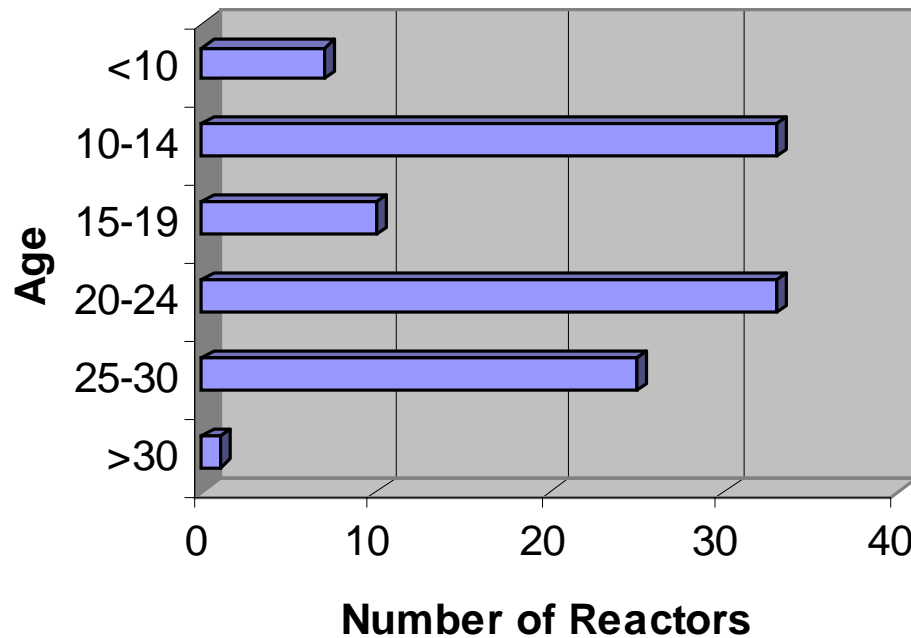
D&D Mortgage by Site



Commercial Nuclear Power Facilities

U.S. Trend Analysis

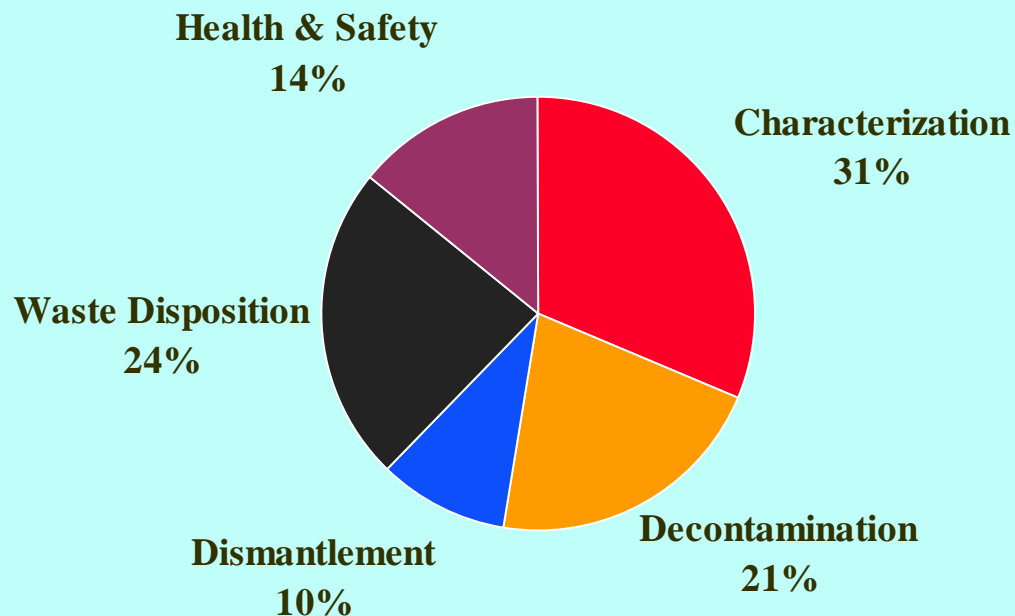
Status of U.S. Reactors



- 110 reactors in U.S.
- 4 U.S. reactors currently slated for D&D
- Due to deregulation, number of reactors to be decommissioned in next 10 years is expected to be much higher

Source: IAEA and NRC

D&D Technology Needs



Total D&D Technology Needs: 156

Customers

- EM Office of Waste Management (EM-30)
- EM Office of Environmental Restoration (EM-40)
- EM Office of Nuclear Material and Stabilization (EM-60)
- Commercial Nuclear Industry

Approach

- **Buy (if available in private sector), rather than Make**
- **Demonstrate, rather than Develop**
- **Develop only if not available**
- **Pool of available D&D technologies is very large; most are in the private sector**
- **DDFA is committed to demonstrating these technologies in the Large-Scale Demonstration and Deployment Projects (LSDDPs)**

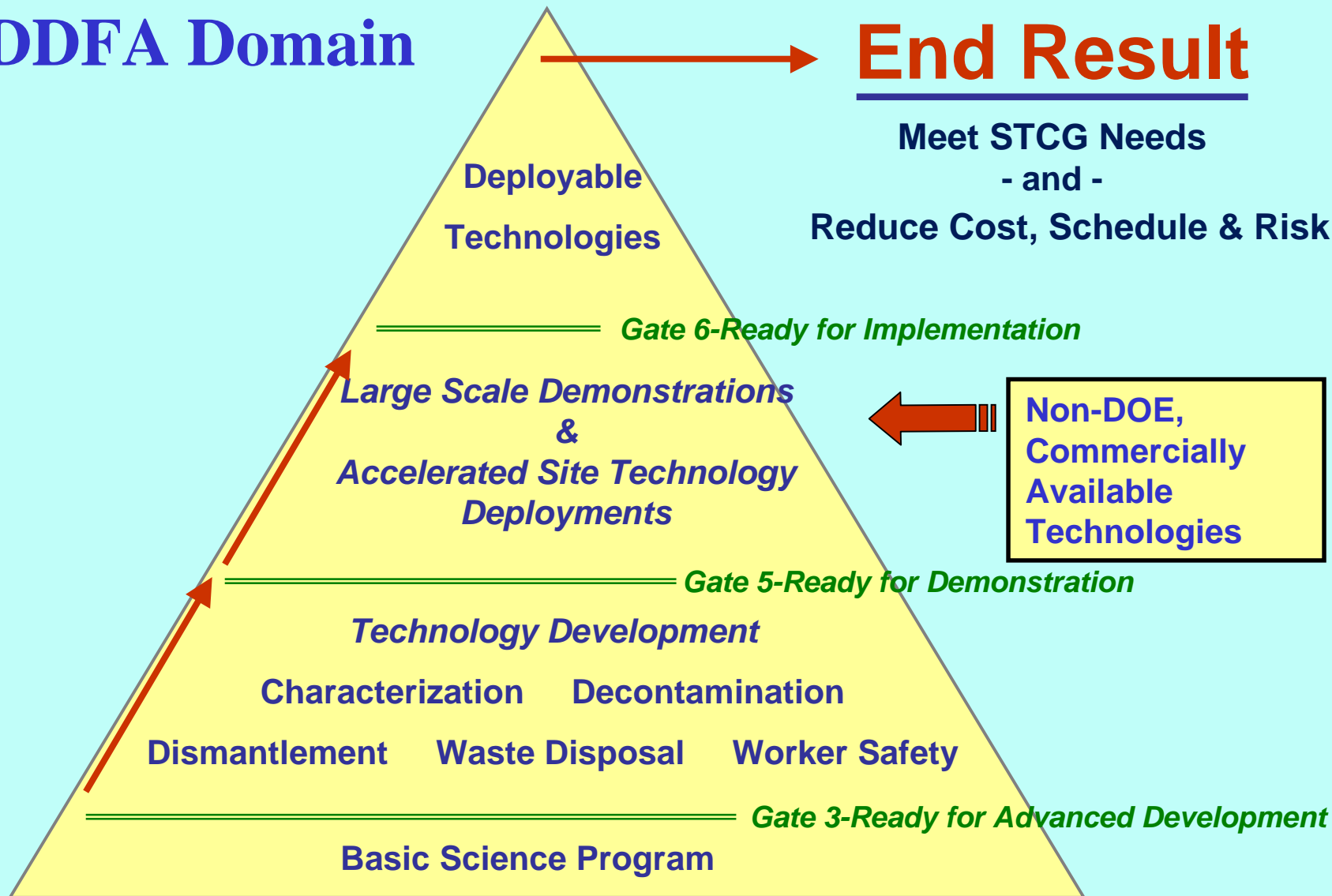
DDFA Domain

End Result

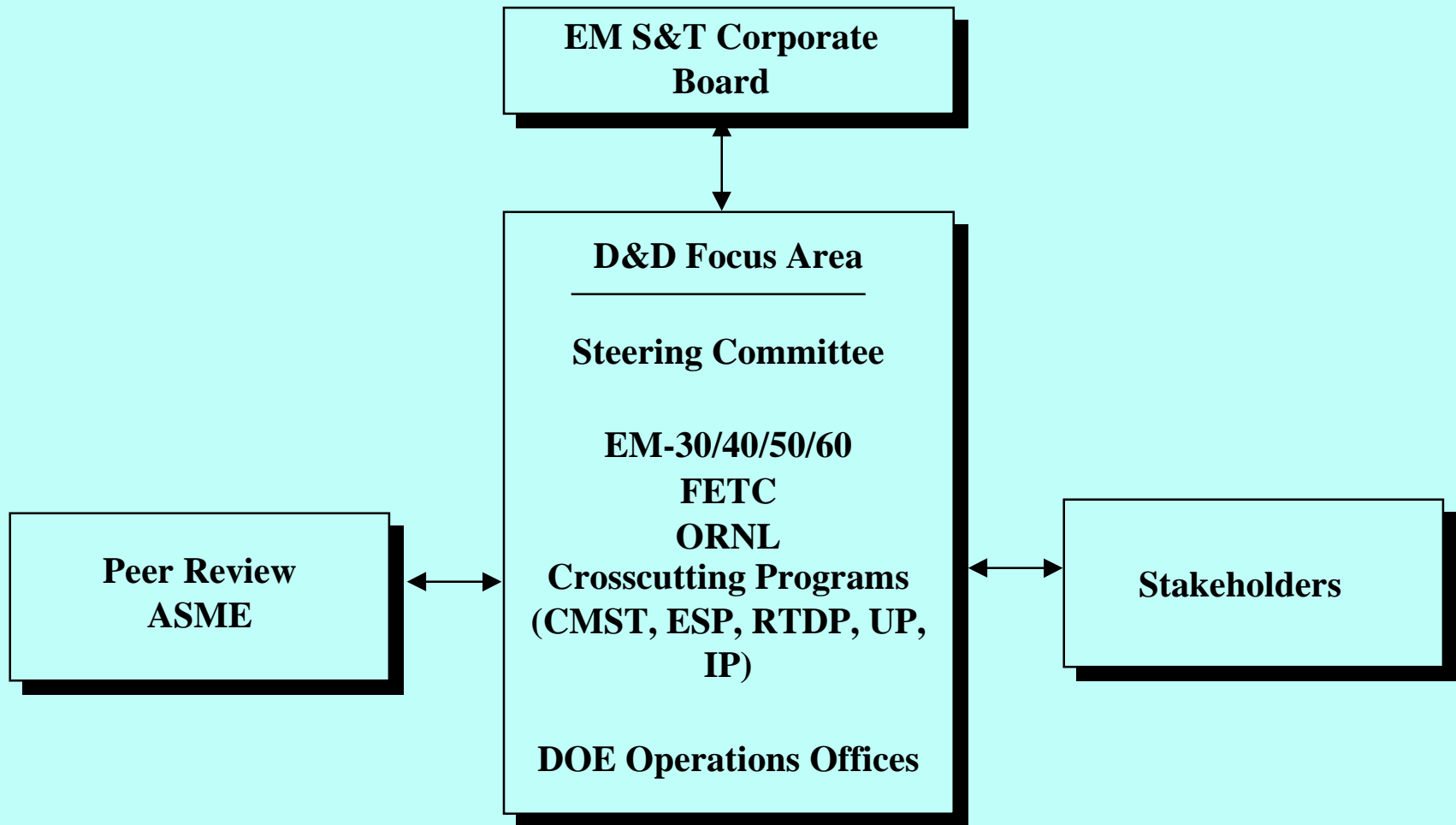
Meet STCG Needs

- and -

Reduce Cost, Schedule & Risk



Focus Area Organization



Large-Scale Demonstration and Deployment Projects

LSDDP Approach

- **Demonstrate technologies in ongoing D&D projects at a scale convincing to the end user**
- **Demonstrate suite of innovative technologies side-by-side with baseline technologies**
- **Manage LSDDPs using a team of D&D contractors who are willing and able to transfer the knowledge and expertise to other sites across the complex**

LSDDP Projects

■ Completed Projects:

- CP-5 Reactor Decommissioning at ANL-E
- FEMP Plant 1 Decommissioning
- 105-C Reactor Interim Safe Storage at Hanford

■ Current Projects:

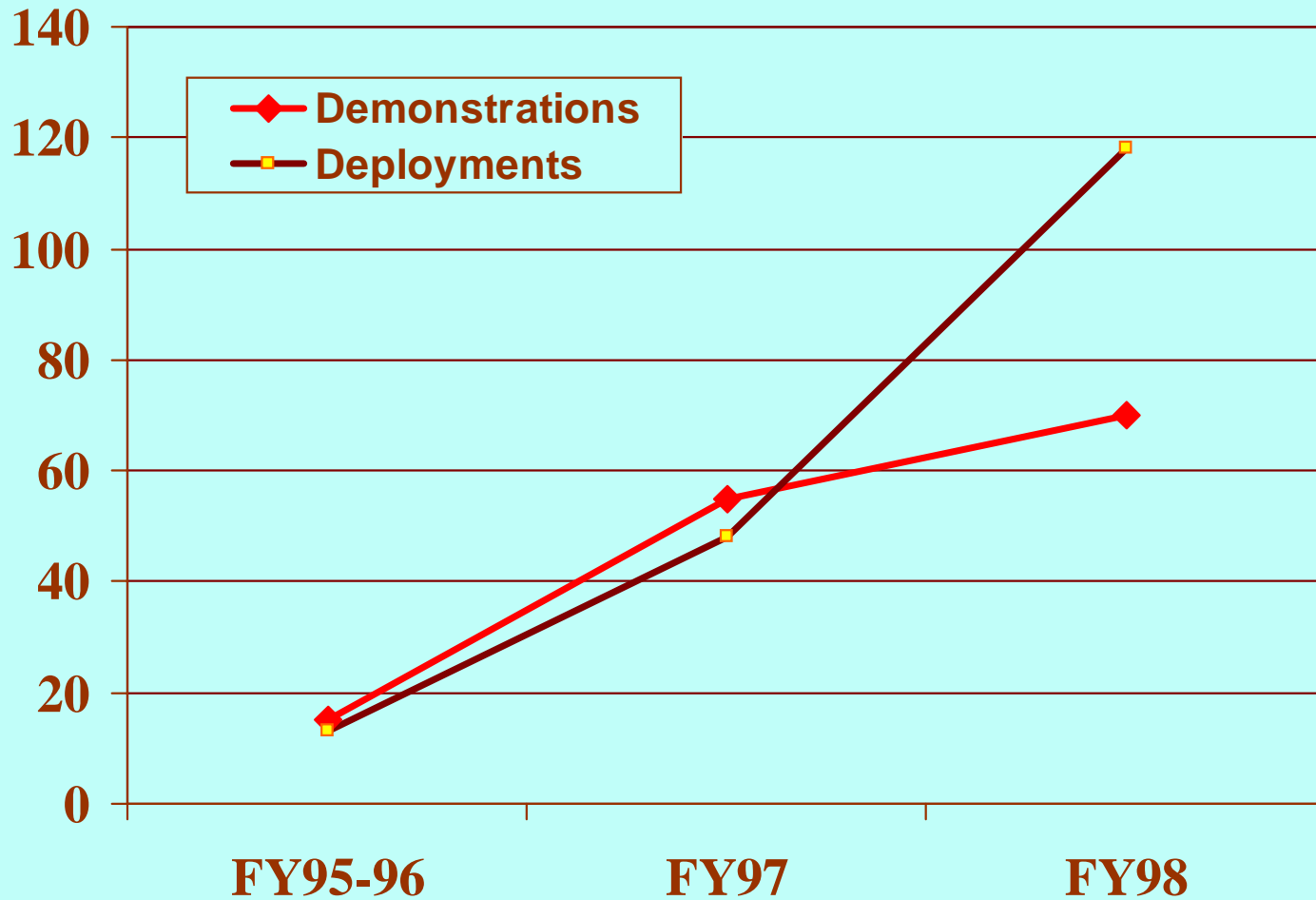
- Oversize Metallic TRU Waste Disposition at LANL
- Mound Tritium Facilities D&D
- 321-M HEU Fuel Fabrication Facility Deactivation at SRS
- Fuel Storage Canals and Underwater and Underground Facilities D&D at INEEL

Deployment Strategy

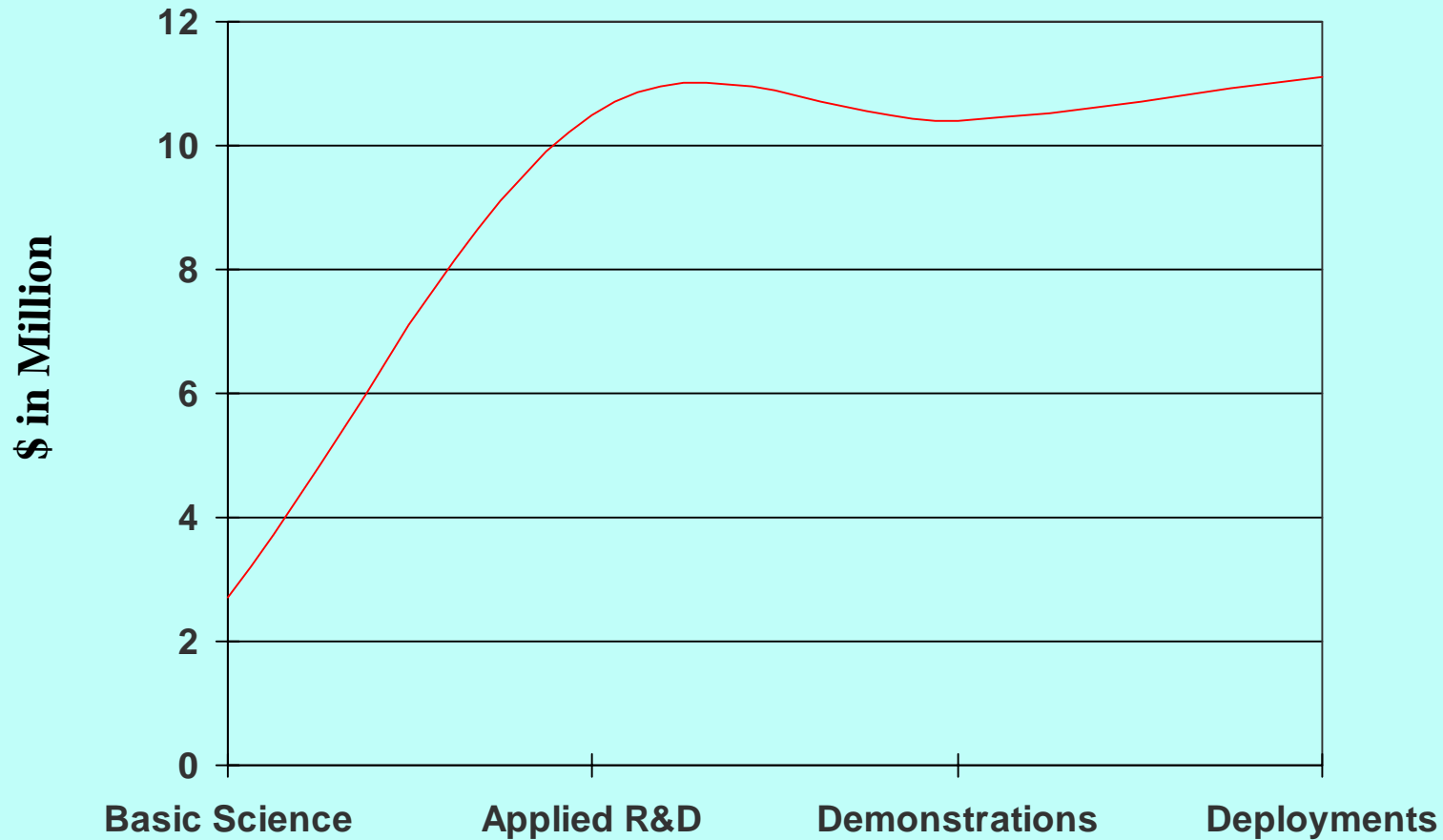
- Successful demonstration at LSDDP leads To Deployment
- Effective use of Integrating Contractor Teams to facilitate deployment
- Effective communication with STCGs to facilitate complex-wide deployment
- Direct communication with users (National Decommissioning Committee, National Facility Deactivation Committee)
- Distribute ITSRs for successful demonstrations
- Distribute implementation and deployment fact-sheets

**Emphasis on Results NOT on
Process**

Deployments Successes



FY 1999 Funding Distribution



Future Direction

- **Post-2006 targeted Science and R&D**
- **Transition basic science to applied R&D**
- **Weapons Components Fabrications Facilities**
- **Separations Processing Facilities**
- **Material Recycle and Reuse**